

### **REMARKS**

Claims 25-30 are pending in the present application. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

### **REJECTION UNDER 35 U.S.C. § 103**

Claims 25-30 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Paulin et al. (U.S. Pat. No. 5,865,913) in view of Workman et al. (U.S. Pat. No. 5,447,035) and a Metals Handbook. This rejection is respectfully traversed.

Claim 25 defines a method for deep cryogenic tempering brake components, namely metallic brake rotors as amended, which requires **at least two post temper cycles**, as has been clearly pointed out in Applicant's Appeal Brief. In addition, Claim 25 requires that the descent rate for cooling the brake rotors to -300°F, the stay time for maintaining the brake rotors' temperature at -300°F, and the ascent rate for raising the temperature of the brake rotors to 300°F be **a function of the mass and the cross sectional area of the brake components**, as has been clearly pointed out in Applicant's previously-filed response.

Applicant respectfully traverses the rejection of Claim 25 because none of Paulin, Workman, or the Metals Handbook teaches or suggests a deep cryogenic tempering process for **brake rotors** requiring at least two post temper cycles. Moreover, none of Paulin, Workman or the Metals Handbook discloses or suggests that the descent rate, the stay time and the ascent rate in a deep cryogenic method for brake components are

a function of the mass and the cross sectional area of the brake components. The Metals Handbook only provides some basic principles of heat treatment and does not even mention any deep cryogenic tempering method whatsoever.

In contrast to the Outstanding Office Action, the Metals Handbook statement that heat treatment conditions are always determined by factors of size, shape, weight, section of the part/component does not suggest to a person of ordinary skill that Paulin or Workman should be modified to make the ascent rate, the stay time and the ascent rate a function of the mass and the cross sectional area of a brake component, particularly when Workman discloses a method requiring long periods of cooling, staying and heating.

Moreover, Workman and Paulin are treating completely different materials for different end applications, and neither of their profiles would result in a brake rotor having the properties according to the methods of the claimed invention. Workman is treating **brake pads** that are compositions of very fine particles of asbestos and composite compounds, among others, which are typically embedded in a phenolic resin binder. (See Col. 2, Lines 22-60). These brake pads are of a completely different material than brake rotors and thus the profiles of Worman are not applicable to the claimed brake rotors. Similarly, the teachings of Paulin are for a different material and end application and these profiles are also inapplicable to the claimed brake rotors. As one skilled in the art would appreciate, the specific processes and profiles for different materials and different end applications vary widely, and Applicant submits that the appropriate profile **is not obvious** from a combination of references but rather must be determined through much experimentation and testing, which cannot be obvious to one

skilled in the art. Accordingly, Applicant submits that Claim 25 cannot be obvious and respectfully requests that the rejection of amended Claim 25 be withdrawn.

Claims 26-30 each depend from Claim 25 and distinguish over the cited references for at least the reasons stated above in connection with Claim 25. Accordingly, Applicant respectfully requests that the rejections of Claims 26-30 also be withdrawn.

Furthermore, Claim 27 requires that the brake components be at approximately 100° F at step (b). This specific temperature is not taught or suggested by the cited references and thus Claim 27 cannot be obvious. Similarly, Claim 28 requires that the brake components be at approximately -100° F before the first post temper cycle, and this specific temperature is not taught or suggested by the cited references and thus Claim 28 cannot be obvious. Although with respect to Claim 27, the Outstanding Office Action states that "approximately 100 °F" reads on ambient, there is no support for such an assertion, and while Applicant respectfully disagrees with this conclusion, Applicant further respectfully requests that the Examiner cite a particular reference for this assertion or withdraw this claim rejection. Additionally, the limitation of -100° F in Claim 28 is not even addressed in the Outstanding Office Action. Again, Applicant respectfully requests further clarification of this claim rejection or that the Examiner withdraw this claim rejection.

Moreover, Applicant hereby incorporates by reference the arguments presented in its Appeal Brief filed on August 11, 2003 and kindly reminds the Examiner of these arguments. Applicant also includes herewith a Notice of Appeal.

## CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (314) 726-7524.

Respectfully submitted,

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